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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,379	05/05/2006	Anne Ferreol	4590-519	6614
33308 7590 08/16/2007 LOWE HAUPTMAN & BERNER, LLP 1700 DIAGONAL ROAD, SUITE 300 ALEXANDRIA, VA 22314			EXAMINER MULL, FRED H	
			ART UNIT 3662	PAPER NUMBER
			MAIL DATE 08/16/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,379	Applicant(s) FERREOL ET AL.	
	Examiner Fred H. Mull	Art Unit 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 10 is objected to because of the following informalities:

In lines 6 and 10, "to" should be --on--.

In lines 6 and 10, after the second instance of "of", --relative to-- should be inserted.

In lines 14-16, there are some letters that appear to be subscripts that are not subscripted.

In line 15, it is not clear why there are "*" symbols.

2. Claim 11 is objected to because of the following informalities:

In lines 6, 9, and 10, there are box-like symbols where Greek letters should be.

Variable d used is not identified in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 10-12 and 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheinvald (1998).

Sheinvald discloses:

one or more sources (abstract, lines 1-2);

each source being in motion relative to a network of sensors (abstract, lines 2-3;
section VI, 1st ¶);

separating the sources in order to identify the direction vectors associated with the response of the sensors to a source at a given incidence, said incidence angles varying depending on the position of the sensors network relative to said sources (section VI.B), where the method is not limited to the case where the incidence angle are fixed. In the setup described by Sheinvald, it would appear that the only situation in where the incidence angles would not vary would be in the unlikely situation where the source happens to be moving with exactly the same motion as the sensor array, thus keeping the angles from the source to the sensors fixed. If the array had a motion perpendicular to a line from the center of the array to the source, the angle from the sensor to the source would obviously be varying. Even if the sensor array were moving direction toward the array, while a center sensor may have an angle that stays at zero degrees, a side sensor would have an angle that increases in magnitude as the array move closer to the array. In other words, the source sees the array as taking up more of its horizon as it moves closer. When the array is touching the source (assuming a point source), the array will take up a full half of the sources horizon, but when the array is infinitely far away, it will be a point on the source's horizon. Thus, only in the special-case where the source and array share the some motion will the incidence angles not vary. No where does Sheinvald limit his method to this special-case, nor would it

appear to be useful for the fields of radar, communications, sonar, seismology, and radio astronomy (section I, lines 1-3) if Sheinvald's method only works where his sensor array matches the motion of the source. (Imagine trying to get an array to vibrate like the epicenter of an earthquake hundreds or thousands of miles away in order to determine the location of that epicenter.);

associating direction vectors $a_{1m}...a_{Km}$ obtained for the m^{th} source and respectively at the instants $t_1...t_k$, are associated during a period Dt in order to separate the different sources for each instant $t_1...t_k$, said incidence angles varying depending on the on the position of the sensors network relative to said sources, whereing the direction vectors $a_{1m}...a_{Km}$ obtained for the mobile sources and respectively for the instants $t_1...t_k$ are associated during a period Dt in order to separate the different sources for each instant $t_1...t_k$ the position (x_m, y_m, z_m) of the mobile emitter is directly localized form the vectors $a_{1m}...a_{Km}$ associated to a same emitter, one emitter being obtained from the different instants t_k (section VI.B).

Response to Arguments

4. Applicant's arguments on p. 8, with respect to various objection(s), have been fully considered and are persuasive. The objections have been withdrawn.
5. Applicant's arguments on p. 8, with respect to various 35 USC 112 rejection(s), have been fully considered and are persuasive. The rejection(s) have been withdrawn.
6. Applicant's arguments on p. 8-9, with respect to the rejection(s) over Sheinvald have been fully considered but they are not persuasive.

Applicant argues that Sheinvald does not disclose localizing the position of a mobile source when the incidence angles vary during the displacement of a mobile (p. 8, final sentence). Sheinvald discloses his sensor system includes a moving rigid array of p sensors (p. 2736, 1st col., final line to 2nd col., line 1; section II, lines 1-2), and that the sources and sensors are all located in the same plane (section II, lines 2-4).

In the setup described by Sheinvald, it would appear that the only situation in where the incidence angles would not vary would be in the unlikely situation where the source happens to be moving with exactly the same motion as the sensor array, thus keeping the angles from the source to the sensors fixed. If the array had a motion perpendicular to a line from the center of the array to the source, the angle from the sensor to the source would obviously be varying. Even if the sensor array were moving direction toward the array, while a center sensor may have an angle that stays at zero degrees, a side sensor would have an angle that increases in magnitude as the array move closer to the array. In other words, the source sees the array as taking up more of its horizon as it moves closer. When the array is touching the source (assuming a point source), the array will take up a full half of the sources horizon, but when the array is infinitely far away, it will be a point on the source's horizon. Thus, only in the special-case where the source and array share the some motion will the incidence angles not vary. No where does Sheinvald limit his method to this special-case, nor would it appear to be useful for the fields of radar, communications, sonar, seismology, and radio astronomy (section I, lines 1-3) if Sheinvald's method only works where his sensor array matches the motion of the source. (Imagine trying to get an array to vibrate like

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the epicenter of an earthquake hundreds or thousands of miles away in order to determine the location of that epicenter.)

In conclusion, the method of Sheinvald performs localization of the position of the source when the incidence angles vary during the displacement of a mobile. It is not plausible, nor is there evidence to support, a claim that the method of Sheinvald is limited to fixed incidence angles, i.e. where there is no relative motion between the source and sensors.

7. Applicant's arguments with respect to the double patenting rejection have been considered and are persuasive. The double patenting rejection will be held in abeyance until claim 10 is found allowable.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 571-272-6975. The examiner can normally be reached on Monday through Friday from approximately 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Fred H. Mull
Examiner
Art Unit 3662

/FHM/


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